DOCUMENT RESUME

ED 218 647 CS 207 070

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TITLE Context and the Assessment of Communicative Competence.
PUB DATE Mar 82
NOTE 27p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, March 19-23, 1982).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Child Language; Cognitive Processes; Connected Discourse; *Context Clues; Grade 1; Language Processing; *Language Research; *Linguistic Performance; *Linguistic Theory; Narration; Primary Education; Reading Research; *Sociolinguistics
IDENTIFIERS *Syntactic Complexity

ABSTRACT

A study explored context effects on two selected indexes of communicative competence in the narrative language of a sample of first grade children. The 30 subjects each completed 2 tasks--the retelling of a story that had been read to them and the dictation of an original story. These narratives were recorded and analyzed for linguistic competence as indexed by a measure of syntactic complexity (average T-unit length) and for sociolinguistic competence as indexed by the subjects' use of reference in their narratives. The results indicated that for the subjects, both the syntactic complexity of language used and the ability to use reference appropriately varied with the context. The findings challenge the "conventional wisdom" that regards the communicative competence construct as a categorical rather than a variable aspect of language behavior. (FL)

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Context and the Assessment of Communicative Competence

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The American Educational Research Association

New York City, March 1982

CS207070

Abstract

This study explored context effects (in story retelling and story dictation tasks) on two selected measures associated with judgments of children's linguistic/communicative competence. The narrative language produced by 30 first-grade children in both contexts was analyzed in terms of: a measure of syntactic complexity frequently interpreted to index syntactic maturity (average T-unit length); and patterns of text cohesion focusing on the appropriate/inappropriate use of reference in text. With literacy development and sex controlled, significant context effects were found as children's performance varied across the two narrative mode tasks. Findings are discussed in terms of implications for sampling and assessing children's language.

This study was supported in part by grants from NIE under Contract Numbers G-79-0039 and G-79-0137 to Martha L. King and Victor M. Rentel of The Ohio State University for the study of early writing development.

Context and the Assessment of Communicative Competence

Assessment of children's communicative competence is a pervasive activity for both language researchers interested in parameters of development and for practitioners interested in instruction and evaluation. The notion of communicative competence includes both linguistic and sociolinguistic dimensions (Hymes, 1974; Halliday, 1978). As Shuy (1981) points out, questions of "linguistic competence" focus on language form and involve aspects of language such as vocabulary, phonology, and syntax; questions of "sociolinguistic competence" focus on language function and are concerned with how individuals use language to communicate appropriately and effectively within specific communication situations. Such factors as narrative abilities, style shifting, and use of reference have been identified as aspects of "sociolinguistic competence" (Shuy; see also Pappas, 1980).

Form and function dimensions of language are complementary, and both are critical to understanding language development, for as Halliday has argued: knowing a language involves knowing "how to communicate...how to choose forms of language that are appropriate to the type of situation we find ourselves in...." (1978, p. 13). Historically, assessment of children's language development has tended to focus on questions of form, ignoring or neglecting aspects of functional competence. The ability to

communicate has largely been "seen as developing from language which is defined by structure rather than by the use of that structure...." (Owens & MacDonald, 1978). Thus much of our knowledge of children's language behavior is unidimensional.

In addition, considerable work in language description and assessment appears to be based on the assumption that communicative competence at a given point in time is a stable individual trait remaining constant across a range of language uses and which can be observed and judged with little attention paid to the specific contexts in which language is sampled.

Current thrusts in linguistics, however, reflecting sociolinguistic concerns, suggest that in describing and assessing language in attempts to understand aspects of development, there is a need to: 1) look at indices of development along both linguistic and sociolinguistic dimensions; and 2) empirically test the extent to which descriptions of language behavior for individuals or for groups can be generalized across contexts of use.

Purpose of the Study

A major purpose of the study reported here was to explore context effects on two selected indices of communicative competence in the narrative language of a sample of first-grade children. Communicative competence in two similar but not identical narrative production tasks was investigated along the following dimensions: linguistic competence as indexed by a measure of syntactic complexity--average T-unit length (Hunt, 1964);

and sociolinguistic competence as indexed by children's use of reference in retold and original stories. This latter index, use of reference, was approached through an analysis of patterns of text "cohesion" (Halliday & Hasan, 1976), of which reference is a major component.

Syntactic complexity as gauged by T-unit length is generally regarded as a measure of syntactic maturity found to increase along with age in school-aged populations. The T-unit is defined by Hunt (1964), who developed the index, as one main clause along with any subordinate clauses or nonclausal structures attached to or embedded within it. Average T-unit length has been widely used as an index of developing linguistic competence in both oral and written discourse (Hunt; O'Donnell, Griffin, & Norris, 1967; Loban, 1976; Black, 1979). The use of reference involving items such as personal and demonstrative pronouns and the definite article "the" in a way that allows their implicit or presupposed meanings to be recovered by an intended audience indicates ability to choose language forms appropriate to a given communication situation and thus is an index of sociolinguistic competence. Use of reference has been explored in studies of young children's ability to modify communicative behavior as a function of their listeners' perspectives (Maratsos, 1973; Menig-Peterson, 1975; Warden, 1976). Findings from these studies suggest that even very young children can modify their use of reference to better conform to communicative demands of specific tasks.

The major question asked of the data in the analysis reported in this paper was whether the children involved in the present study demonstrated similar degrees of communicative competence, in terms of the linguistic and sociolinguistic variables selected for study, in the two contexts in which their language was sampled. The study tests the assumption of trait stability of both variables within a single discourse mode--narrative language.

Methods

Participants and Variables

Subjects were 30 middle-class, first-grade children attending two schools in the metropolitan Columbus, Ohio area (average age of the children was 6 years, 7 months). Randomly selected from the middle-class population of children participating in a longitudinal study of early writing development (King, et al., 1981), the sample was stratified according to classification variables of: (A) level of literacy development, and (B) sex. Three equal-size groups (n=10) of developing readers were identified on the basis of standardized test results along with classroom teacher evaluation. The groups were identified as "fluent readers," "transitional readers," and "beginning readers," with an equal number of boys and girls in each literacy group classification. Thus factors such as socio-economic status, sex, and level of literacy development which may be associated with differences in linguistic performance were controlled in the design of the study.

The tasks which represent the manipulated variable in the study involved children producing oral narratives in two contexts. In one context children individually retold--to a naive adult listener--a story that had been read to them (The Magic Porridge Pot, by Paul Galdone). In the second context they dictated an original story to an adult scribe. Both tasks represented familiar activities in the classrooms of the participating students; all of the children had prior experience in recreating stories as well as in creating original stories. It should be noted that both tasks involve communicating about non-present--or even imaginary--characters, objects, and events which were ostensibly unknown to the intended audience. Thus the tasks shared similar communicative constraints bearing on the use of reference: children had to explicitly present (i.e., lexically introduce or specify) story characters, places, and events before making reference to them; and they had to use reference items unambiguously throughout their narratives. Use of reference items which cannot be resolved through the language itself is inappropriate given the constraints of these "disembedded" language tasks (Pettegrew, 1981).

The two language samples from each child were collected over a two-week period early in the school year, with task order randomized; and, no child was asked to produce both narratives on the same day. Narratives were audio-taped for later transcription and subsequent analysis.

Scoring and Data Analysis

The transcribed narratives produced in both tasks were segmented into T-units, and the average number of words per T-unit was calculated for each text. Mean T-unit length (MTUL) data (see Table 1) were subjected to a 2 between-subjects, 1 within-subjects analysis of variance (ANOVA), with the classification variables of literacy level and sex being the between-subjects factors, and task the within-subjects factor.

Insert Table 1 about here

Analysis of text cohesion was also carried out, following the system described by Halliday and Hasan (1976). Cohesion analysis traces semantic relationships or ties between two elements in a text whereby one element is interpreted through or otherwise semantically related to the other element. Reference is a major means of achieving text unity or cohesion, in some instances accounting for the majority of all cohesive ties in young children's oral and written language (King, et al., 1981). In the present analysis, all instances of text-forming or cohesive ties in the five categories defined by Halliday and Hasan--Reference, Ellipsis, Substitution, Conjunction, and Lexical Cohesion--were identified and counted.

In the case of Reference, a tie exists between a personal or demonstrative pronoun or the definite article "the," and the lexical specification of the referent's identity. For this analysis,

the Reference category included only those items that were appropriately used--that is, the reference items were "endophoric" or "text-based." A sixth category of tie, called "Exophoric Reference," was established for unspecified or ambiguous reference items (whose interpretation was tied to presupposed information not provided in the text itself, hence unavailable to the intended audience). Table 2 shows examples of the reference coding categories identified in the cohesion analysis.

Insert Table 2 about here

Proportions of ties in the six categories were calculated for each text and, following the same factorial design as in the MTUL ANOVA, arcsine transformed proportion scores of five of the cohesion categories (eliminating Substitution) were subjected to a multivariate analysis of variance (MANOVA). Table 3 displays the pretransformed proportion scores for the five dependent variables entered in the MANOVA.

Insert Table 3 about here

Results and Conclusions

Results from the ANOVA on mean T-unit length indicated only one significant effect, that for task: F (1,24) = 21.61, $p < .001$.

Insert Table 4 about here

Texts in the retelling context (with a MTUL of 9.02) were characterized by language of greater syntactic complexity than texts produced in dictation (with a MTUL of 7.66). This finding suggests that syntactic maturity, as indexed by the average T-unit length criterion, may not be a stable individual trait but rather a variable aspect of language behavior--even within a single discourse mode.

Results from the MANOVA on the five selected cohesion categories also indicated a significant main effect for task: $F\ (5,20) = 3.26,\ p < .03$.[1]

Insert Table 5 about here

Follow-up discriminant function analysis on the task factor (Table 6) revealed that the texts produced in the two tasks largely differed with respect to the sociolinguistic index of communicative competence tapped by the cohesion analysis--use of reference.

Insert Table 6 about here

Proportion scores indicate that while the children made relatively greater use overall of reference as a text-forming option in dictation (almost 42 percent) than in retelling (about 39 per cent), they displayed greater control over providing the means for interpreting those reference items in their dictated narratives. As indicated in Table 3, incidence of uninterpretable

(ie., unspecified or ambiguous) reference items was quite low in dictation (just over 1 per cent) but significantly higher in retelling (almost 4 per cent). If children had difficulty in providing for the informational needs of their audience through the reference structure of discourse when retelling a story, they did not demonstrate the same degree of difficulty when they created their own stories to communicate. Therefore, the ability to use reference appropriately also appears to be a variable rather than categorical aspect of language behavior for children of this age, with variation crucially dependent on quite subtle contextual factors. It appears there are contextual factors other than "simple" rhetorical mode features associated with the narrative mode that influence linguistic performance.

Also contributing to the difference between the tasks was the use of Ellipsis, with greater relative occurrence in the dictated stories. While not of major interest in the present discussion, Ellipsis provides an interesting linguistic marker signalling a general difference between retellings of The Magic Porridge Pot and the stories children tended to create on their own. The dictated stories, overall, had a greater proportion of direct, interactive dialogue between characters. Dialogue provides opportunities for question-and-answer sequences with polar elliptical responses to occur, as in the following example from the data:

And so the boy asks, "Are you a scary monster?"

And the monster said, "No." (understood: I am not a scary monster)

This feature of the dictated stories, reflecting differences between the tasks relative to content and organization of narrative, also points to the potency of context effects on language behavior.

Discussion

The major findings of this study relative to aspects of communicative competence indicate that for children of this age, both the syntactic complexity of language used and the ability to use reference appropriately varies with context--even within the general narrative rhetorical mode.

The findings are important, for they point to a need to challenge the "conventional wisdom" which regards the communicative competence construct as a categorical rather than variable aspect of language behavior. Indeed, work along these lines, bearing on the question of T-unit length stability, is being pursued with college-age students (Witte & Davis, 1980, 1982). Though the results of the two studies cited were somewhat mixed, the questions raised need to be addressed before we can confidently describe parameters of development or make judgments about what students are <u>able</u> to do with language.

Only two variables, one from each of the dimensions (form and function) of the communicative competence construct, were explored here. Additional aspects of both form and function dimensions need to be identified and/or operationalized and examined in terms

of their response to contextual variation. Description and assessment of communicative competence along both linguistic and sociolinguistic dimensions must take into account variation arising from specific task demands (within-subjects variation) in order to gain a more comprehensive picture of language development; and this requires observing and sampling language across a range of contexts of interest to researchers and practitioners.

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Footnotes

[1]The only other significant effect revealed in the MANOVA--that for literacy level--is discussed in detail in Pettegrew (1981). The task effect, of interest in this paper, was independent of the effect found for literacy.

Table 1
Descriptive Statistics for Mean T-unit Length
By Literacy, Sex, and Task

GROUP	SEX	RETELLING	DICTATION	OVER TASKS
		Means (SDs)	Means (SDs)	Means (SDs)
Fluent Readers	Males	8.93 (1.37)	7.33 (2.02)	8.13 (1.83)
	Females	8.97 (1.13)	7.61 (0.84)	8.29 (1.18)
	Over Group	8.95 (1.19)	7.47 (1.47)	8.21 (1.50)
Transitional RReaders	Males	8.70 (1.23)	7.59 (1.53)	8.14 (1.43)
	Females	10.40 (1.13)	7.69 (0.73)	9.04 (1.69)
	Over Group	9.55 (1.43)	7.64 (1.13)	8.59 (1.59)
Beginning Readers	Males	8.24 (0.60)	7.71 (1.60)	7.97 (1.17)
	Females	8.86 (1.45)	8.01 (2.08)	8.43 (1.75)
	Over Group	8.55 (1.10)	7.86 (1.75)	8.20 (1.47)
	Males Overall	8.62 (1.08)	7.54 (1.61)	8.08 (1.45)
	Females Overall	9.41 (1.37)	7.77 (1.27)	8.59 (1.54)
	All Subjects	9.02 (1.27)	7.66 (1.43)	8.34 (1.51)

Table 2

Examples of Reference Categories Coding

Endophoric (text-based) Reference

[2.1] Once there was an old woman and a little kid. They had nothing to eat.

(they is interpreted through the specified lexical items "woman" and "kid")

Exophoric (unspecified or ambiguous) Reference

[2.2] They didn't have any food just this little piece of bread. And when they got poor, she went out to look for nuts and berries.

(they and she are not lexically identified; however the second mention of "they" is interpreted as anaphorically tied to the first mention and not counted as exophoric)

[2.3] The mom wanted the girl to come for something to eat. And she didn't have anything to eat.

(definite reference in these "first-mention" situations falsely presupposes the listener's ability to uniquely identify the named characters; the identity of "she" is ambiguous)

Table 3

Means for Text Forming MANOVA
By Literacy, Sex, and Task (Pre-Transformed Variables)

LITERACY	SEX	TASK	Reference	Exo Ref	Ellipsis	Conjunction	Lexical
Fluent Readers	Males	1	.3684	.0144	.0078	.2134	.3950
		2	.3891	.0063	.0097	.1543	.4343
	Females	1	.3388	.0007	.0077	.2715	.4154
		2	.3606	.0000	.0254	.2513	.3568
	Group Overall	1	.3536	.0075	.0077	.2425	.4052
		2	.3749	.0031	.0176	.2028	.3956
	Over Tasks		.3642	.0053	.0126	.2226	.4004
Transitional Readers	Males	1	.3450	.0336	.0079	.2401	.3733
		2	.3237	.0311	.0371	.2619	.3462
	Females	1	.3264	.0291	.0079	.2312	.4024
		2	.3963	.0015	.0189	.2434	.3399
	Group Overall	1	.3357	.0314	.0079	.2357	.3879
		2	.3600	.0163	.0280	.2526	.3430
	Over Tasks		.3478	.0239	.0180	.2442	.3655
Beginning Readers	Males	1	.3387	.1032	.0081	.2343	.3157
		2	.4385	.0258	.0089	.1700	.3568
	Females	1	.3588	.0414	.0055	.2178	.3749
		2	.4249	.0161	.0363	.1979	.3214
	Group Overall	1	.3488	.0723	.0068	.2260	.3453
		2	.4317	.0210	.0226	.1840	.3391
	Over Tasks		.3902	.0466	.0147	.2050	.3422
	Task Means Overall	1	.3460	.0371	.0075	.2347	.3795
		2	.3889	.0135	.0227	.2131	.3592

Table 4

ANOVA on Mean T-unit Length
By Literacy, Sex and Task

SOURCE	df	F	P <
Between Subjects	29		
Literacy (A)	2	.40	.67
Sex (B)	1	1.55	.22
AxB	2	.28	.76
S/AB	24		
Within Subjects	30		
Task (C)	1	20.61	.001
AxC	2	1.42	.26
BxC	1	.88	.36
AxBxC	2	.82	.45
SC/AB	24		
Total	59		

Table 5

LITERACY BY SEX BY TASK MANOVA
ON TEXT FORMING CATEGORIES

SOURCE	df	dfHYP	dfERR	F	p <
Between Subjects	29				
Literacy (A)	2	10 4	40 20	2.08 .52	.05 .72
Sex (B)	1	5	20	1.28	.31
Literacy x Sex (AxB)	2	10 4	40 20	1.10 1.07	.39 .40
S/AB	24				
Within Subjects	30				
Task (C)	1	5	20	3.26	.03
Literacy x Task (AxC)	2	10 4	40 20	.94 .67	.51 .62
Sex x Task (BxC)	1	5	20	.83	.54
Literacy x Sex x Task (AxBxC)	2	10 4	40 20	.74 .37	.69 .82
SC/AB	24				
Total	59				

Table 6

Discriminant Analysis and Univariate ANOVAs
On Use of Text Forming Categories for Tasks

Use of Text Forming Category	Standardized Discriminant Analysis Weights	Structure Coefficients	Univariate F Tests (1,24)	$p <$
1 Reference	.222	.567	4.97	.03
2 Restricted Exophoric Reference	-.623	-.473	5.74	.02
3 Ellipsis	.658	.646	5.98	.02
4 Conjunction	-.443	-.278	1.36	.25
5 Lexical Cohesion	-.594	-.256	.98	.33